

Table S11. Specific primer pairs used for ChIP-qPCR validation. Primer pair #1 and #2 amplify regions that are bound by cohesin equally in healthy and CdLS cells, and served here as positive controls. Primer pair #3 and #4 amplify regions that are not bound by cohesin in either healthy or CdLS cells, and served as negative controls. Primer pair # 5 to # 13 amplify regions that were identified as having lost cohesin binding in CdLS cells by the qualitative ChIP array studies.

Primer ID	left primer	right primer	Chr	position
1	ACCACAAGGTGGCAGAATAAG	CACATGCATATAGGCTAACGAAG	chr3	79653256-79653385
2	AACACAAGCGGTCTCTGTCC	GATGGCTCTTCATGTACGG	chr18	72239945-72240119
3	GAGCTCTAAGGGAGGCTCCG	CATCATGGTGTCTCACAGG	chr11	1983833-1983994
4	TGCCATGCGTTGAAAATATCC	TGCTTTCTGAAGTTGCCAAGC	chr7	27213317-27213491
5	GGCACGATTACTTAATGTTACG	CTGCAGCAGTGGTCGC	chr5	124071139-124071295
6	ACTTGTTCTGGAAGGCTCTC	TTGAGGAGACACCAGAGTGAC	chr5	124088545-124088657
7	ACGAGAGTGTGGCTCATGC	AGGAAGGACGACTCATCTGG	chr4	47187478-47187660
8	AGTCCTTCTCCGCACCATC	CCATTATCTTCACACCCATATCC	chr13	112645175-112645323
9	AGGAGATGCTGTGCTGATCC	TATCCAGAGCGAGTGTGCTG	chr1	153443443-153443596
10	CCAGGCACTGTCTTCAAC	TGTGTTGCATGTAATGTACTAGCTC	chr6	10586629-10586819
11	GCCAAGCTAATGCACATGG	CACAGCTCAAGAGCACCATC	chr6	114422682-114422857
12	TTCTCTTCAGTGCTCTTCAAC	TTGCAAGCGTGTGGACTC	chr16	71623997-71624129
13	AGTGAGAGAGAGGTTACAGTCC	TGACACCATTGAGATGTTGACTC	chr14	96721538-96721691

*Primer #28 (negative for CTCF nd RAD21) Wendt KS. *et al.* Nature 2008 451 796

*Primer #36 (negative for CTCF nd RAD21) Wendt KS. *et al.* Nature 2008 451 796